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09/980,910	02/26/2002	Hardy Wietzoreck	DNAG 224 - PFF/JRC	3826

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New York, NY 10103

EXAMINER

ZHENG, LOIS L

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,910

Applicant(s)

WIETZORECK ET AL.

Examiner

Lois Zheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 27-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 27-50 is/are rejected.
- 7) ☐ Claim(s) 37 and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Status of Claims

1. Claims 49-50 are added in view of the amendment filed on 12 January 2005.
Claims 1-2 and 27-50 are currently under examination.

Previous Objections

2. The objection of the abstract of the disclosure is withdrawn in view of the new abstract filed on 12 January 2005.

Claim Objections

3. Claims 37 and 48 objected to because of the following informalities:
In claim 37, line 3, "possible used" should be changed to "possibly used".
Claim 48 depends on previously canceled claim 23. In this Office Action, the examiner interprets claim 18 to be depended on claim 47.
Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 27, 29-39 and 41-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seidel et al. US 5,976,272(Seidel) in view of Reed US 3,939,014 (Reed).

The teachings of Seidel and Reed are discussed in paragraph 5 of the previous Non-Final Office Action.

With respect to claims 1, 27 and 29-30 of the instant invention, the examiner maintains the rejection grounds for the same reasons as stated in paragraph 5 of the previous Non-Final Office Action. Since the amended features merely broaden the scope of the claim, the same rejection grounds stand.

With respect to claims 31 and 49 of the instant invention, Seidel further teaches the phosphate coating weight of around 0.3 to around 3 g/m² (col. 3 lines 59-60), which reads on the claimed layer weight of 0.1 to 5g/m² as recited in instant claim 31 and the claimed layer weight of 0.2 to 5g/m² as recited in instant claim 49.

With respect to claim 32 of the instant invention, Seidel further teaches that the phosphate coating can be applied by various methods such as spraying and squeezing (col. 3 line 64 – col. 4 line 17).

With respect to claim 33 of the instant invention, Seidel further teaches that the substrate surface is heated to 50 – 120°C (col. 5 lines 18-20), which reads on the claimed temperature of 20-120°C.

With respect to claim 34 of the instant invention, since Seidel in view of Reed disclose a phosphate coating composition in g/l that overlaps the coating composition of claimed invention, therefore, the coating composition in wt% as taught by Seidel in view of Reed would have inherently overlapped the claimed coating composition in wt%. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating composition ranges in wt% from the disclosed ranges of

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Seidel in view of Reed would have been obvious to one skilled in the art since Seidel in view of Reed teach the same utilities in its' disclosed coating composition ranges.

With respect to claim 35 of the instant invention, even though Seidel in view of Reed do not explicitly teach the claimed second application of the phosphate coating layer, one of ordinary skill in the art would have found the claimed second phosphate coating layer obvious since it is well known in the art to apply additional phosphate coating layers in order to enhance the corrosion resistance. Furthermore, Seidel's phosphate coating solution, comprising 2-25 g/l of Zn, 2-25 g/l of Mn, 0.1-15g/l of Ni, and 50-300g/l of phosphate ions(i.e. equivalent to 30.77-184.66 g/l of P_2O_5), overlaps the concentrations of the claimed second coating solution. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating composition ranges from the disclosed ranges of Seidel in view of Reed would have been obvious to one skilled in the art since Seidel in view of Reed teach the same utilities in its' disclosed coating composition ranges.

With respect to claim 36 of the instant invention, Seidel further teaches that prior to the phosphate coating step the substrate can be treated with an aqueous solution of titanium phosphates for activation(col. 5 line 63 – col. 6 line 4).

With respect to claim 37 of the instant invention, Seidel further discloses the use of 3-200 mg/l of copper ions in the phosphate coating solution, which overlaps the claimed at least 0.3 mg/l of copper ions in the first phosphating solution and 0.1 to 50mg/l of copper ions in the second phosphating solution. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating

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copper ion concentration range from the disclosed copper ion concentration range of Seidel in view of Reed would have been obvious to one skilled in the art since Seidel in view of Reed teach the same utilities in its' disclosed copper ion concentration range.

With respect to claim 38 of the instant invention, Seidel further teaches that the ratio of free acid to total acid is in the range of 1:4 – 1:20(i.e 0.05-0.25), which reads on the claimed range of 0.03-0.6.

With respect to claim 39 of the instant invention, Seidel further teaches the use of hydrogen peroxide, nitrobenzene sulfonic acid or hydroxylamine as accelerator(col. 4 line 64 – col. 5 line15), which read on the claimed catalyst.

With respect to claim 41 of the instant invention, Seidel further teaches the use of hydroxycarboxylic acid such as lactic acid, citric acid and tartaric acid(col. 3 lines 17-21) in the phosphate coating solution as claimed.

With respect to claim 42 of the instant invention, Seidel further teaches the addition of fluoro complexes of boron, silicon, titanium or zirconium(col. 3 lines 9-12) in the phosphate coating solution, which reads on the instantly claimed boron, silicon, titanium, zirconium and fluoride ions.

With respect to claim 43 of the instant invention, Seidel further teaches that the temperature of the coating solution is in the range of 15 to 80°C(col. 3 lines 42-43), which substantially overlaps the claimed temperature range of 10-80°C. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating temperature range from the disclosed temperature range of Seidel in view of

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Reed would have been obvious to one skilled in the art since Seidel in view of Reed teach the same utilities in its' disclosed coating solution temperature range.

With respect to claim 44 of the instant invention, even though Seidel in view of Reed does not explicitly teach that the phosphate coating solution is applied to a phosphate layer as claimed, one of ordinary skill in the art would have found the claimed phosphate coating solution applied to a phosphate coating layer obvious since it is well known in the art that multiple phosphate layers can be applied to further enhance the corrosion resistance. In addition, Seidel teaches applying the phosphate coating solution by spraying or rolling(col. 3 line 64 – col. 4 lines 17).

With respect to claims 45 and 46 of the instant invention, Seidel further teaches the phosphate coating impregnated with oil, which acts as lubricant to reduce the friction between the cold forming mechanical tool and the workpiece(col. 2 lines 23-26). Furthermore, the examiner does not find claim 46 bearing patentable weight since the oil coating or lubricant coating is not required to be present.

With respect to claim 47 of the instant invention, Seidel further teaches that the phosphate coating is used to prepare the substrate for painting(col. 2 lines 17-18), which meets the instant claim limitations.

With respect to claim 48 of the instant invention, Seidel further teaches that phosphate coating is applied to metal parts prior to subjecting the metal parts to cold mechanical forming(col. 2 lines 20-24).

With respect to claim 50 of the instant invention, Seidel further teaches the addition of free or complex form fluoride in the amount of 0.01 – 5 g/l(col. 3 lines 9-14).

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6. Claims 1, 27-35, 37, 39 and 42-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cuyler.

The teachings of Cuyler are discussed in paragraph 6 of the previous Non-Final Office Action.

With respect to claims 1 and 27-30 of the instant invention, the examiner maintains the rejection grounds for the same reason as stated in paragraph 6 of the previous Non-Final Office Action. Since the amended features merely broaden the scope of the claim, the same rejection grounds stand.

With respect to claims 31 and 49 of the instant invention, Cuyler further teaches the phosphate coating weight of $0.05 - 8 \text{ g/m}^2$ (col. 11 lines 20-37), which overlaps the claimed layer weight of 0.1 to 5 g/m^2 as recited in instant claim 31 and the claimed layer weight of 0.2 to 5 g/m^2 as recited in instant claim 49. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating weight range from the disclosed range of Cuyler would have been obvious to one skilled in the art since Cuyler teaches the same utilities in its' disclosed coating weight range.

With respect to claim 32 of the instant invention, Cuyler further teaches that various coating methods such as spraying can be used to apply the phosphate coating solution.

With respect to claim 33 of the instant invention, Cuyler further teaches that the phosphate coating can be dried at $20-230^\circ\text{C}$, which overlaps the claimed temperature of $20-120^\circ\text{C}$ as instantly claimed. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed drying temperature range from the

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disclosed range of Cuyler would have been obvious to one skilled in the art since Cuyler teaches the same utilities in its' disclosed temperature range.

With respect to claim 34 of the instant invention, since Cuyler teaches a phosphate coating composition in g/l that overlaps the coating composition of claimed invention, therefore, the coating composition in wt% as taught by Cuyler would have inherently overlapped the claimed coating composition in wt%. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating composition ranges in wt% from the disclosed ranges of Cuyler would have been obvious to one skilled in the art since Cuyler teaches the same utilities in its' disclosed coating composition ranges.

With respect to claim 35 of the instant invention, Cuyler further teaches that the phosphate conversion coating can be applied again the substrate is being mechanically shaped(col. 11 lines 31-37). Furthermore, Cuyler's phosphate coating solution, comprising 0.159 – 40 g/l of Zn, 0.53 – 280 g/l of Mn, 0.159 – 20g/l of Ni, and 53 – 400 g/l of phosphate ions(i.e. equivalent to 32.62 - 246.21g/l of P_2O_5), overlaps the claimed concentrations of the claimed second coating composition. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating composition ranges from the disclosed ranges of Cuyler would have been obvious to one skilled in the art since Cuyler teach the same utilities in its' disclosed coating composition ranges.

With respect to claim 37 of the instant invention, Cuyler further teaches the use of copper in the coating solution in the amount of 3-100mg/l(col. 6 line 66 – col. 7 line

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2), which overlaps the claimed at least 0.3 mg/l of copper ions in the first phosphating solution and 0.1 to 50mg/l of copper ions in the second phosphating solution.

Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating copper ion concentration range from the disclosed copper ion concentration range of Cuyler would have been obvious to one skilled in the art since Cuyler teach the same utilities in its' disclosed copper ion concentration range.

With respect to claim 39 of the instant invention, Cuyler further teaches using hydroxylamine in the coating composition(col. 6 line 37-59).

With respect to claim 42 of the instant invention, Cuyler further teaches using iron in the coating composition(col. 6 line 14-36).

With respect to claim 43 of the instant invention, Cuyler further teaches that the coating solution is applied at 20-30°C(col. 10 line 57-61), which reads on the instantly claimed 10-80°C.

With respect to claim 44 of the instant invention, Cuyler further teaches that the coating can be applied by various coating methods such as spraying(col. 10 lines 37-53).

With respect to claims 45 and 46 of the instant invention, Cuyler further teaches that the phosphate coating layer can be used as a carrier for lubricant material, which inherently meets the claim limitation of applying a lubricant to dried phosphate coating layer. Furthermore, the examiner does not find claim 46 bearing patentable weight since the oil coating or lubricant coating is not required to be present.

With respect to claim 47 of the instant invention, Cuyler further teaches that phosphate coating enhances the adhesion to subsequently applied paint, which inherently meets the instant claim limitations.

With respect to claim 48 of the instant invention, Cuyler further teaches the substrate is shaped mechanically after coated with a phosphate coating(col. 11 lines 31-38).

7. Claims 2 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cuyler in view of Fotinos et al US 5,653,790(Fotinos).

The teachings of Cuyler are discussed in paragraph 8 above.

The combined teaching of Cuyler in view of Fotinos are discussed in paragraph 7 of the previous Office Action.

With respect to claim 2 of the instant invention, the examiner maintains the rejection ground for the same reason as stated in paragraph 7 of the previous Non-Final Office Action. Since the amended features merely broaden the scope of the claim, the same rejection grounds stand.

With respect to claim 40 of the instant invention, the claim is rejected for the same reason as stated in the rejection of instant claim 2 as discussed in paragraph 7 of the previous Office Action.

Response to Arguments

8. Applicant's arguments filed 12 January 2005 have been fully considered but they are not persuasive.

In the remarks, Applicants argue that

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- (a) All of the examples of Seidel, with the exception of example 16, teach a lower Zn concentration than claimed,
- (b) Example 16 of Seidel teaches a phosphate ion concentration that is outside of the claimed phosphate ion range,
- (c) Reed teaches against the use of manganese phosphate,
- (d) Reed does not teach the claimed accelerators,
- (e) Cuyler teaches lower maximum Zn and maximum Mn contents, as shown in Tables 2 and 4-5, than as claimed,
- (f) Cuyler does not teach the polymer concentration as disclosed by the instant invention, and
- (g) Unlike the examples of the instant application, Fotinos teaches that hydrogen peroxide may be combined with nitro-compounds as accelerators

With respect to applicants' arguments (a), (c)-(d) and (g), applicants are reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. In *re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In *re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Reed reference is combined with Seidel reference because Reed teaches using Zn at claimed concentration level in a phosphate coating solution in order to achieve the rapid coating results (col. 4, lines 13-17, see paragraph 5 of the previous Office Action). Therefore, Reed's negative teaching of using manganese phosphate and lack of claimed accelerator teachings are not relevant. On the same note, Fotinos reference is combined with Cuyler reference because Fotinos

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teaches adding hydrogen peroxide at claimed concentration level in a phosphate coating solution in order to accelerate the coating process(col. 3 lines 36-42, see paragraph 7 of the previous Office Action). Therefore, Fotinos' teaching of hydrogen peroxide being combined with nitro-compound accelerators is irrelevant. Applicants' arguments would be affective if applicants are able to show that the rejections based on Seidel in view of Reed, Cuyler, and Cuyler in view of Fotinos are not proper. Attacking the deficiencies of Seidel, Reed, Cuyler and Fotinos individually does not show nonobviousness. See MPEP 2145(IV).

With respect to applicants' argument (b), example 16 of Seidel is merely an embodiment of Seidel's invention. Since Seidel teaches 50-300g/l of phosphate ions(i.e. equivalent to 30.77-184.66 g/l of P_2O_5), which overlaps the phosphate concentration of the claimed invention rendering the claimed phosphate concentration obvious for the same reason as stated in paragraph 7 above.

With respect to applicant's argument (e), the lower maximum Zn and Mn contain as shown in tables 2 and 4-5 of Cuyler are merely embodiments of Cuyler, therefore, do not cover the entire scope of the Cuyler's invention. Since Cuyler teaches 0.159 – 40 g/l of Zn and 0.53 – 280 g/l of Mn in it's phosphate coating composition, which overlap the claimed Zn and Mn concentrations of the claimed coating composition, rendering the claimed Zn and Mn concentrations obvious for the same reason as stated in paragraph 8 above.

With respect to applicant's argument (f), applicants are reminded that although the claims are interpreted in light of the specification, limitations from the specification

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are not read into the claims. In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). See MPEP 2145(VI). In this case, since polymer concentration is not claimed, Cuyler's teaching of using polymer in the phosphate coating composition is sufficient to meet the claim limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LLZ

ROY KING 
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

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